

July 1994

approach



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yes, we deliver, but was this trio necessary, page 12

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After a long battle convincing people that I can write—and not just with crayons—I'm in the editor's chair. *Approach* has always been one of my favorites... I'm looking forward to putting my own slant on the way we look at naval aviation.

I just know you are eagerly awaiting my mini-autobiography (at least Mom is, and I plan on sending her a copy). First, and we might as well get this out of the way up front, I am a Texas Aggie ('86). I instructed in the TA-4J as a VT-22 Sergrad back in Kingsville. I just completed a tour flying Tomcats with VF-102 where I also earned my LSO wing qualification. I have accumulated 1,900 hours...

(I'm stopping him here—Previous Ed.).

This job requires an aviator so that we understand the stories we edit. I have flown on those dark, pitching-deck recoveries where you're faced with getting aboard or diverting 500 miles. I've made decisions to fly in weather I shouldn't have because I wanted to get home. I once left two 6,000-foot silver streaks down the middle of El Centro's runway 26



after blowing both tires (during a stuck-throttle emergency). I visited the tanker when I planned my fuel ladder for a perfect recovery but had an emergency. In short, I'm human and I've made some of the mistakes you read about every month. So get com-

fortable, grab a cup of coffee, and enjoy another issue of this world famous magazine.

Lt. Ken "Boz" Skaggs

inside approach

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July 1994

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On the cover: An AV-8B Harrier II of VMA-223.
Photo by Ted Carlson, Fotodynamics.

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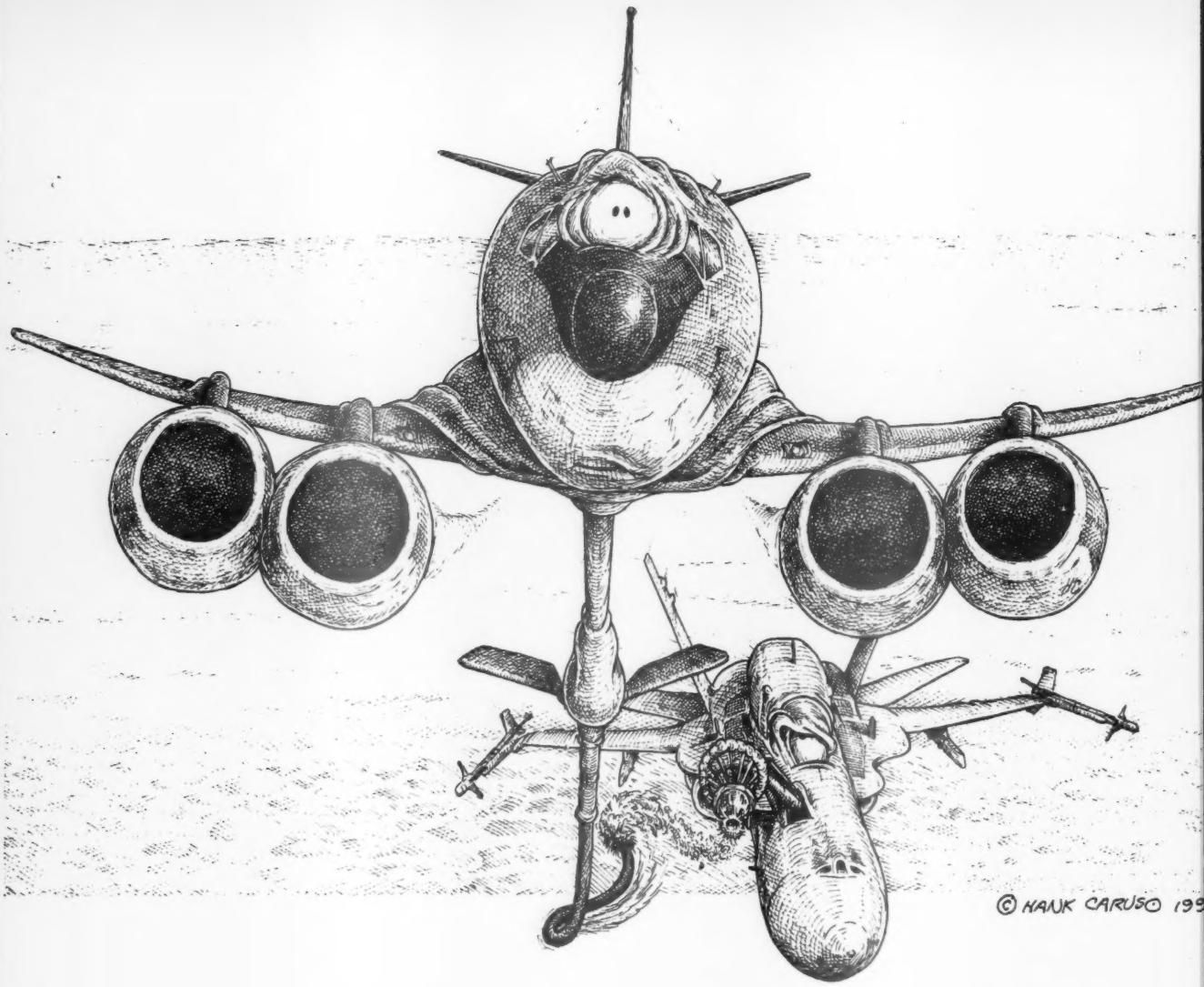
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Seriously IT JUST BLEW!

By LCdr. Garry Mace

During our deployment to the Arabian Gulf, I was the flight leader for a section of Hornets on a high-visibility Strike-ex in support of Operation Southern Watch. The mission itself went like clockwork. We collected lots of good FLIR target footage because, after all, if it's not on tape, you weren't there. After completing our primary mission, however, things became a bit more interesting.

Outbound from Iraq, we stopped to visit "Hoser 31" for a bit of fuel prior to returning to mother. Approaching the KC-135's basket, I smoothly (No kidding!) engaged my probe. With the reassuring "clunk" of a normal (I'm serious!) engagement came my big surprise: the KC-135 basket unceremoniously separated from the hose and remained firmly attached to my refueling probe! With a horrified boom operator screaming for an emergency breakaway, and my giggling wingman scrambling for his camera, I asked our tanker comrades why I was wearing a perfectly good basket after such a silky smooth (I swear!) engagement.

The boom operator offered this explanation.

"Sir, you did nothing wrong." (His words not mine!) "The aircraft that just left had quite a battle with the basket and damaged his probe. The basket didn't look badly damaged, but evidently it was. You made a normal engagement."

Naturally, my first thoughts were of self-preservation. Who would ever believe that it wasn't my fault? My wingman was an LSO and former NAV-CAD; obviously his word was worthless. I remembered all the times I had scoffed at the claims of "one to two knots closure" reported on previous aviation hazard reports about Hornet tanking incidents. Surely this was different—it just blew! In a flash of brilliance that still amazes me, I flipped on my VTR tape, told the boom operator that his last transmission was broken, and asked him to "say again" his last.

With my alibi documented on Memorex, I began my RTB with my newly acquired souvenir. My aircraft wasn't damaged, so that was not my immediate

concern. Unfortunately, I didn't get a drop of fuel out of the tanker before taking possession of his basket, so fuel became my primary worry.

Complicating my bingo options were the extra drag of the attached basket, airspeed limits on an extended probe, and, most importantly, the possibility of serious aircraft damage or FOD if the basket separated from the refueling probe.

I told Strike about my low fuel and divert options through our E-2C. I estimated that I had enough fuel to fly to the ship and, with a charlie on arrival, make one pass before I would have to bingo to our divert field. I was instructed to return to the ship to a ready deck.

Executing a modified bingo profile, I tried to find a happy medium between a fuel-efficient airspeed and an airspeed that was agreeable to my undulating trophy. This modified profile required constant calculations to track the progress of my dwindling fuel. Basic fuel flow and time-to-go showed it was gonna be close.

Another consideration was the power response and flight characteristics of my Hornet in the approach configuration with the probe extended and heavy basket forward of my CG. I dirtied up in the descent and, after a quick controllability check, decided against using auto throttles. (Auto cripples can relate to the increased anxiety I now felt!)

Much to the delight of my squadron mates, the basket remained firmly in place during arrestment.

I should have known that being safe on deck was just the beginning of my problems. As you might imagine,

everyone in the air wing was very polite about the whole issue, and no one doubted my story... not!

By the time I debriefed the mission and got below decks to our ready room, my 60-pound prize was perched precariously over my chair. A steady stream of visitors came by to admire it. There it was, strung just inches above my head for a tremendous photo opportunity. The safety officer grimaced at the mishap just waiting to happen, but that's another story. ▶

LCdr. Mace flew with VFA-195. He is currently assigned to VFA-125.



Wings Back

B i n g o

By Lt. Brian Foley

We had been in the northern Persian Gulf for nearly two months and the novelty of flying in what was so recently a combat zone was quickly fading. Daily ops had become somewhat tedious, and like I had heard since my days in the training command, at this point the hairs on the back of my neck should have been standing out like a flag in a stiff breeze.

Ninety percent of our CAP hop had gone as briefed. My wingman and I rendezvoused overhead mother at 21K, establishing a racetrack pattern along the threat axis. After flying at max conserve for an hour and a half, we used our extra gas for a short l v l on the way back to the ship. After the engagement, I passed the lead to my wingman and started to concentrate on the OK 3-wire.

As we descended out of low holding, I programmed the wings aft to 68 degrees, and the master-caution light illuminated, along with a pitch-stab 2 caution light on the discrete panel. The master reset would not extinguish the light, but I still had one other pitch-computer channel to control the pitch SAS system.

A few seconds later, my RIO and I felt a heavy vibration from the aft section of the airplane. I noticed the flight-hydraulic needle was op-checking the limits of the gauge. I called Tower, requesting an immediate straight-in as I simultaneously selected "auto" on the wingsweep control to get the wings back forward.

Any warm-and-fuzzy feeling I might have had retreated as my RIO reported that the wings had not programmed fully forward.

At about the same time, my wingman said a cloud of hydraulic fluid was spraying from the right nacelle. I tried to manually sweep the wings forward using the emergency handle, but only succeeded in bumping the wings aft another two degrees. The wings were now eight degrees further aft than NATOPS allows for a carrier landing, including a barricade arrestment.

After talking to our squadron rep, my wingman and I began a bingo profile to the nearest divert, 150 miles

away. As we climbed, the Air Boss requested one more orbit overhead the ship, without explaining why. We pressed on under the premise that once on a bingo profile, you stop for no one.

The PCL drill was not easy because we had multiple emergencies and because the checklist does not directly address "wings stuck aft." We decided to err on the side of safety and went through both "uncommanded wingsweep" and "asymmetric wingsweep."

We might have wasted a minute or two, but I guarantee we missed nothing.

...my
wingman
and I
began
a bingo
profile...

We began our descent into Saudi Arabia and contacted the local approach control. At first, their replies were nearly unintelligible, but after we adjusted our ears to their heavily-accented English, we realized we were being cleared for whatever we requested. Just as the warm-and-fuzzy feeling was about to return, the front cockpit went completely NORDO about 15 miles from the field. Fortunately, I was able to signal to my wingman and he picked up the comm perfectly. I dirtied up and discovered my approach speed would be 175 knots. After some confusion about the correct runway, my wingman dropped me off on a two-mile final for an uneventful landing, using the entire 12,000-foot runway.

After the dust settled, I realized that we had not adequately covered the divert field during our brief. When we arrived in the Gulf, it was a common perception that this field had bi-directional arresting gear. In fact, it only had overrun gear, and Tower needed a heads-up to rig it. Also, although the field had parallel runways, they were about five miles apart, and the eastern strip was for civilian traffic.

Lt. Foley flew the F-14B with VF-143. He is now assigned to the Naval Postgraduate School.

Aft-wingsweep landings seem to becoming all too common lately. If this problem hasn't been covered in a recent AOM, it probably should be. Aft-wingsweep landings affect profiles, aircraft-handling characteristics, engagement speeds for arresting gear, and braking distances. It's better to do your homework before you need the answers.—Ed.

Bad Things Happen in

By Lt. Glen Hansen

“I just hope I don’t have to eject.” It was 1220 on a beautiful Sunday afternoon. I was flying an A-6 off the coast of Ventura, California, and my BN was muttering obscene (ejection) thoughts over the ICS. Twenty minutes earlier, our near-perfect plan had disintegrated.

We launched out of NAS North Island, filed for a low-level into NAS Fallon. Center changed our flight plan just before takeoff, which affected our fuel planning and distracted us. Upon reaching altitude, I engaged the autopilot, and we started planning an inflight route change to improve our tight fuel situation. Just before Los Angeles, we checked our gauges and adjusted our airspeed in response to Center’s request.

Two minutes later, the aircraft began oscillating and the master-caution light (Bad Thing No. 1) came on. A quick scan of the annunciator panel showed a backup hydraulic light. Both flight hydraulic pumps had failed, and so had my vocabulary.

My BN called Center, declared an emergency, and requested an immediate divert to NAS Point Mugu. We needed to dump at least 8,000 pounds of fuel to take an arrestment. About that same time, an F-14 requested an immediate recovery because of low fuel, so we decided to take the short-field gear on the off-duty runway, which was 5,500 feet.

Arriving at 6,000 feet MSL, we were still too heavy and requested a vector to finish dumping—and panicking—and to complete the remainder of the NATOPS procedures.

We finished dumping fuel, turned back inbound, and began the emergency landing procedures by slowing down and lowering the flaps and slats electrically. On dropping the landing gear, I started to run through the landing checklist, and lo and behold, we had three unsafe landing gear. We realized this was a bad situation that was rapidly degrading.

We requested a flyby. Tower confirmed the bad news. Our nose gear was down; both main mounts were

up (Bad Thing No. 2). Again, we chose to go outbound over the water to sort things out. Approach couldn’t find an aircraft to check us.

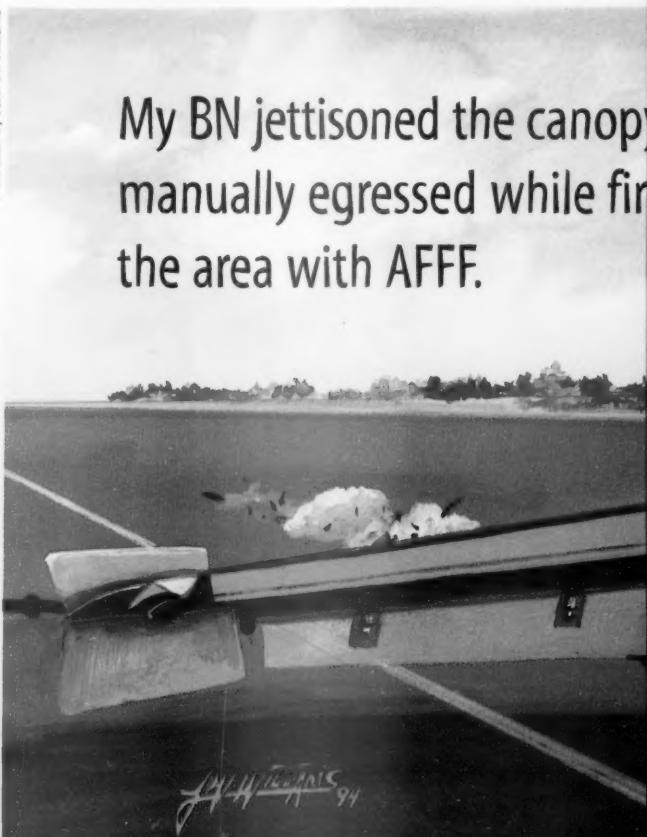
We complied with NATOPS procedures for unsafe landing gear and landing emergencies. After exercising all of our options, we had a down-and-locked nose gear and two unsafe main mounts. We turned inbound sounding calm, cool on the radios.

At five miles (as we went feet dry), I looked at my BN one last time and pleaded for a solution. All he could do was tell me to land.

We flew a fast, flat approach, keeping the aircraft off the runway for as long as possible. I slowed the airplane as we crossed the runway threshold, and set the hook down as my nose crossed the arresting gear. I hoped we

Illustration by John W. Williams

My BN jettisoned the canopy manually egressed while firing the area with AFFF.



Threes

didn't get a hook skip. The hook caught, and the aircraft slewed left as we rolled out. Tower called that we were on fire (Bad Thing No. 3) as the engines spooled down. My BN jettisoned the canopy, and we manually egressed while the fire trucks hosed down the area with AFFF.

I looked back at my stricken bird wondering what the skipper would say. My BN must have read my thoughts. After he egressed, he continued on to Base Ops to call home with the bad news.

Later, the aircraft was hoisted up, the main landing gear dropped, and the aircraft was towed away. The only apparent damage was a ground-down tailhook, a scraped left flap, a damaged I-MER, and a burned centerline drop tank that torched off momentarily as it peeled away from the airplane on rollout. We later learned the other hydrau-

lic system had a chaffed line that may very well have also burst, given enough time.

There was not much more we could have done. We caught the initial emergency early and diverted to the nearest suitable divert. We followed NATOPS (including all the notes). Several things helped us.

We were flying on a Sunday afternoon, which meant we were Tower's only concern, and we were able to maneuver as necessary. Crew coordination worked as we both accepted the responsibility to our separate duties without wasting effort.

Grumman built an airplane to withstand the rigors of war (and gear-up landings)!

Skipper, can I go on another cross-country?

Lt. Hansen flew with VA-95. He is now assigned to Strike U.

nd we
rucks hosed down





We Never Have *WINDSHEAR*

By Cdr. Tex Keuhlen

I had been an FRS instructor for nearly three years, and I knew the E-2 inside-out. I had been taught by some of the best students around. I had lived through my first inverted spin, a single-engine or two, and all the interesting things a student can do to you while trying to learn to fly the toughest aircraft to bring aboard the carrier. I felt comfortable in the aircraft, flying from the right or left seat.

So there I was, at that point where the FCLPs my students and I were flying were for my boat. I was moving back to the fleet, seasoned, somewhat wiser and a whole lot more crusty than when I started the program. I flew the first period, and by my fourth pass, the weather had turned ugly. Turning off the 180, I recommended to Paddles we go into the ACLS box pattern because I was having a hard time seeing him at 400 feet AGL. He concurred, so we made a full-stop landing, switched seats, and picked up a

quick clearance into the ACLS box. We were in the goo at 300 feet. How does it go, training you can't buy or give away?

The weather had deteriorated to basically what had been advertised—about 300 and 1 with rain. The only thing that seemed odd for Miramar was the winds, which were about 70 degrees off the port wing, but only at 5-10 knots. At night, in the goo, raining cats and dogs, and a little crosswind to boot. Did I hear anyone say something about vertigo? Even with all this, it was good training, and I had a good stud in the left seat. We pressed on.

The first pass was colorful. We never made it to centerline, and glideslope was rough. My student was having a hard time adjusting to IMC (so was I). I asked Tower for a wind check because even our controller was having a hard time turning us in the right spot for a good

start. They gave us winds at 50 degrees off the port wing and only 8 knots. Nothing to worry about.

Our second pass was a lot better, but it took 35 degrees of crab to hold centerline. I asked for another wind check. They said it was now 110 degrees off the port wing but only at 8 knots. Throughout those first two passes, I had heard the little voices loud and clear. They were saying, "Engine failure in the goo... lost comm... wet runway... where are the mountains?" and I was listening.

This may have started as a fun FCLP-training hop, but it had turned into real work with no margin for error. I had planned for every emergency that could go wrong.

Our third pass started pretty good. We still had a good crab in, but not as bad as before. By a mile-and-a-half, we had worked ourselves to about two units slow and a full high on the approach. I watched my student pull power to work it down while thinking to myself, "Why not just lower your nose a little?"

As I started to make my suggestion, I felt it. We had suddenly taken the express elevator down. I took the aircraft as I scanned AOA, airspeed and altitude. In that tenth of a second between adding max power and the stall, the light bulb came on, and it all came together—windshear.

As I took my left hand off the power levers and stomped full right rudder, the port wing sliced off big time. I had allowed the aircraft to stall, 700 feet AGL in the goo.

Rudder shakers hit somewhere in there, AOA was pegged as high as it would go, and the airspeed was just bouncing around. I lowered the nose, pulled the left wing up, tried to level off and raise the gear. I stalled it again with the same port wing slice, gear still down. Passing through 450 feet on the radalt, I tried again to gently pull up. Somewhere, I heard the final controller in the background say, "Going below safe limits, go around."

Thanks, bud.

I finally got the gear up. I leveled the wings and gently pulled up again. It worked. I'm not sure where we leveled off. We never did break out. I do know we climbed out like a bat out of hell.

We checked in with Approach and told them we were full stop. Paddles said negative, that we had to get four more passes.

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**Engine
failure in
the goo...
lost
comm...
wet
runway...
where
are the
mountains?**

I said, "Forget it, I'll talk to you later, we're a full stop."

I didn't start shaking until I reached Maintenance Control. After landing and a long talk with the weather folks and Tower, it seems I got caught in the perfect Murphy. Miramar winds are almost never from the southeast, but they were this night, and they were shifting almost 50 degrees. The surface winds were 8 to 10 knots, but above about 500 feet, they were 20-25 knots. The final straw was our approach, high and slow. The wind shifted from the forward to the aft quarter as we pulled power.

Later that night, I tried to figure it all out. I felt a lot of things; probably the foremost was embarrassment. I was not supposed to be in situations like this. What had I done wrong? Why had my voices failed me? Why didn't I recognize the 35-degree crab as major winds no matter what Tower told me?

I think I know some of the answers, starting with how we think. I have a tendency to focus too much. I was ready to handle anything that came my way from the aircraft or the stud. But the weather, how could it hurt me until I tried to land on that wet runway? That was the sucker punch. A dangerous situation was developing, and I didn't see it.

Second, I knew something was wrong. I had asked for numerous wind checks, but didn't correlate what I saw on the instruments with what Tower was telling me. With more than 2,000 hours in the aircraft, I should have had enough cockpit sense to know that when something feels wrong, it probably is. Trust your instincts.

Next comes concentration. Flying multiple precision approaches in actual conditions is demanding, but you can never let yourself totally concentrate inside the aircraft. Too much concentration (fixation),

be it on instruments or just the events at hand, can kill you just as well as no concentration at all.

Never generalize. Four months before, I had sat through a lecture by the late LCdr. Joe Towers on windshear. It was interesting, and I distinctly remember thinking, "This is dangerous stuff. I'm sure glad we don't have those kind of conditions here in southern California." I stashed his gouge in my cross-country bag.

I'll now change that to we never have those conditions 99.9 percent of the time.

Cdr. Keuhlen is the CO of VAW-117.

A Wall in t

By LC



He thought I was countermanding his request to talk to Tower.

I had just arrived at the FRS as a Cat II for carrier qualifications and was current in the aircraft. The CAPC was a new instructor at the FRS who had been dealing primarily with new, inexperienced pilots. We were on a detachment to Key West, not our normal operating field, but both of us had been there before, and it was our third day on this det. It was the first time we had flown together.

During landing rollout, I requested a turn-off at an off-duty runway. I didn't want to taxi all the way to midfield and half-way around the airfield to return to the hold-short to make our seat swap. Tower approved the request, and I pointed out to the pilot that it was OK to turn off at the approaching off-duty runway.

He asked that I make sure that it was OK with Tower that we turn off there. I told him that Tower had already approved it. That's when the trouble began.

Somehow, he thought I was countermanding his request to talk to Tower, instead of my telling him that what we wanted to do was already approved. The pilot very loudly suggested that I remember that it was his aircraft and that I do as he requested without argument.

As the senior and more experienced pilot, I considered his actions inappropriate and didn't answer. The atmosphere in the cockpit was tense for the rest of the flight. Neither of us was willing to discuss the issue further or say anything more than what was required to complete the flight. We never resolved whether he just did not hear my transmission to Tower and their reply, or whether he was confused about which runway had been approved for our turn-off.

Situations like this continue to occur in multi-place cockpits. There are numerous possible reasons, from the basic aviator personality, to the simple misunderstanding that I experienced.

Misunderstandings between aircrew would seem to be the most basic problem and the easiest to fix, since most aircrew have similar training and experience. However, in analyzing what happened on this flight, many questions come to light. Why didn't he hear or understand my early turn-off request to Tower? Was he not used to flying with someone who had the experience to make such a request

The Cockpit

C Eric Hinger

without being told to do it? Did he think I was trying to take command of the aircraft? Did he think I was assuming that it would be OK to turn onto the off-duty without checking with Tower (again assuming he missed my call) since we had been turning there during other flights?

Was he confused about which runway he was thinking of turning on, and which runway I said to turn on? Were we calling it by its reciprocal headings? The incident should have been cleared up before we launched back into the pattern, but it wasn't. Our animosity was like a wall in the cockpit that kept us from working together. If we had had an emergency that required crew coordination, the problems may have been insurmountable. Personality conflicts may also produce this type of situation. In the military, the person on the other side of the cockpit may not be someone you consider a friend. The adage that professionalism in the cockpit should override any personality conflicts sounds good, but may not necessarily be true.

We would all like to think that we can concentrate on the task at hand and put aside such differences, but what happens if you just had a run-in about your ground job with that same person before you went flying? Is the combination of factors enough to build up that wall?

Intimidation can also build barriers in the cockpit. It may result from the seniority of one crew member to another, or an aircraft commander with an overpowering personality. A crew member who is junior in rank but senior in experience may also be intimidated by the senior ranking officer. When I was a nugget, I watched one aircraft commander in the left seat come unglued and jump around the cockpit, yelling and beating his kneeboard on the glareshield because we were not going to be the first aircraft launched as scheduled. I was completely intimidated and was not about to do anything I was not told to do on that flight.

During a routine flight, the lack of crew coordination may not keep you from completing the hop; it might only make it a less-than-enjoyable experience. However, in an emergency, how quickly or easily will the crew be able to begin to work together? Recovering from an emergency is not the time to find out. ◀

LCdr. Hinger flies with VAW-121.

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As the senior and more experienced pilot, I considered his actions inappropriate.

Pizza for a Mr. Charlie Oscar?

By Lt. Eric S. Towe

PH1(AC) David C. MacLean



Our HH-46D helo detachment was midway through a weekend workup aboard a Pacific-based supply ship. The weather on Friday and Saturday had been clear with choppy seas. Sunday would be a different story. We awoke to gray overcast skies and fairly heavy seas. The winds were steady from the port

side at 30-plus knots, and the ship provided us with a sharply rolling flight deck.

The flight schedule called for the OINC and I to each try to get a nugget copilot qualified for day landings and VERTREP. We made the obvious decision to postpone night qualifications very early in the day.



With last-minute deck coordination between the aircraft commanders complete, and harnesses securely fastened, we tackled the day's training head-on.

An occasionally hair-raising three hours later, we were ready to land and stow our two helos one at a time on the single-spot deck.

As I was preparing to land for fuel on a second ship, which had taken part in the day's training, mother called to tell me she had a package to be delivered to our companion vessel. Would I land and get it to take with me when I went over for gas? The OINC and I had briefed earlier for him to land at 1800 to gas, fold, and stuff, and I would follow at 1830 in order to beat sunset. Though landing for the mystery package would push back our timetable a little, we agreed that I should do it.

At 1815 and counting there was still no package in sight. Since the OINC was not current in night landings, and I was, there was no choice but for me to take off so he could land and shut down. While I waited for our deck to be cleared, I could gas up on the other ship.

As we fueled, we wondered what this mystery package could be. I had seen ball caps riding a load to the other ship during the morning's CONREP, and I knew that the other ship had sent cookies to mother during the afternoon. I suppose it was our turn to reply. Our discussion was interrupted when a rapid roll snapped us

over to 15 degrees right wing down on my attitude gyro. I was never more happy to be chained to a deck in my whole life.

At this point I called our ship and asked to know the priority level of the mystery package. I voiced my concerns about impending darkness and the heavy roll we had just taken. I was informed that the package was top priority, CO to CO, and had to go that night. I replied with an unenthusiastic "Roger" and wondered again what could be so important.

With the horizon turning dark gray in the twilight, we finally made it to mother to pick up the package. When a petty officer met my second crewman on deck with a tin-foil-covered box containing pizza, I had all I could do to contain myself. Had the horizon been completely gone, I probably would have refused to go. I did make the delivery, however, and returned to discover my fellow det pilots apologetic about having had to carry out the CO's direct order. Nevertheless, they were amused enough to give me the new nickname "Domino's."

All joking aside, I am writing this because all of us, from the most junior sailor to the CO, need to think about what is and is not a true priority. Launching a helo at twilight after three hours of tense hover work over pitching and rolling decks just to deliver a pizza seems a little silly. Maybe next time I'll fight a little harder not to go. ▶

Lt. Towe currently flies with HC-5.



"Have you seen my vertigo demonstration?" That was my first hint that this flight was not to be just an ordinary basic-instrument hop. I was an SNA half-way through the advanced-helicopter syllabus. Up to that point, my training had been strictly by the book.

I had progressed smoothly through the FAM syllabus and the first two solos en route to my instrument training. With the BI-simulator curriculum behind me, I was glad to be back in the cockpit. My previous two BI flights had proved encouraging, earning me a few more above averages, and I had been looking forward to another chance to excel.

This flight was to be a rehash of maneuvers I had already mastered, with a sprinkling of introductory items. The instructor's vertigo demonstration wasn't in the master curriculum guide.

"Oh, well," I thought, "the vertigo demo in the T-34 was pretty lame. This should be the same."

My instructor said that he would pretend to have vertigo, and that I should act like a fleet pilot. I wasn't sure what that meant, yet, but this part of the flight was a freebie. If it wasn't in the curriculum, it was a win-win

situation. I would get to learn something with no chance to mess it up.

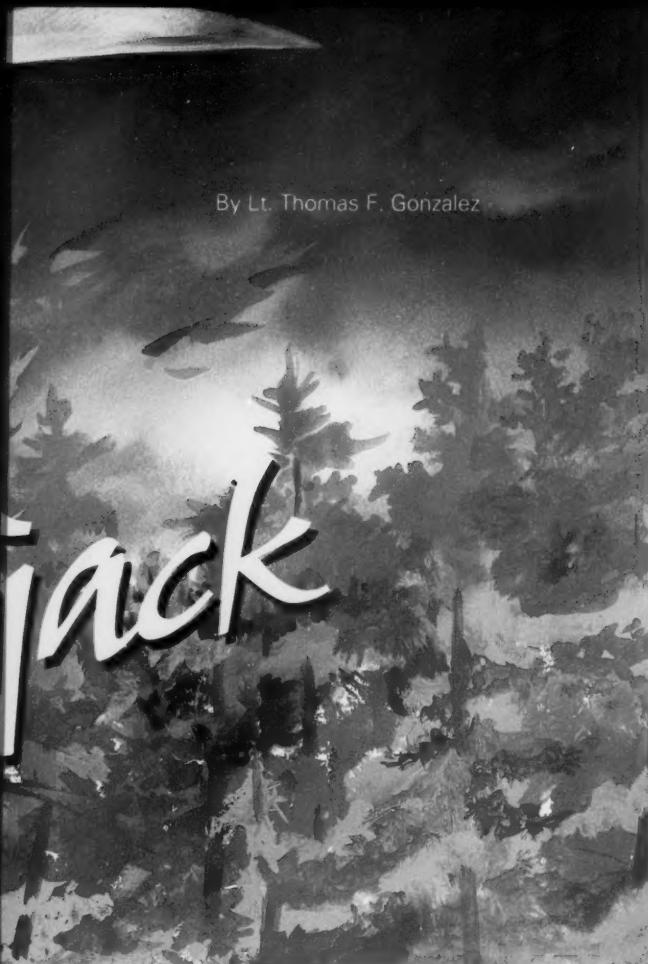
We launched in our TH-57C into a dark night to fly the first half of the flight, an RI hop for a later-stage flight student. I was to sit on the right side of the back seat and be our "eyes" for the student up front, who wore an instrument hood and couldn't see outside.

After completing the first flight, we returned to South Whiting, refueled, and swapped crews. My flight went well as we went through the gradesheet items. I finished the last item—a partial-panel unusual-attitude recovery—and expected to hear the welcome invitation to remove my hood.

"OK," the instructor said, "I've got the controls. Now, I'll show you my vertigo demonstration. You just sit back and act like a fleet pilot."

As I relinquished control, I asked if I could at least have all my instruments back. He replied by restoring my attitude gyro.

Settling into my new role as a "fleet pilot," I prepared myself for vertigo enlightenment. As expected from my earlier T-34 vertigo demo, my fellow fleet pilot began a



By Lt. Thomas F. Gonzalez

Illustration by John W. Williams

shallow left turn. I waited until he deviated off course by the NATOPS-prescribed five degrees, and using my best fleet-guy Yeager voice, I said, "Sir, you are five degrees off course. You need to come back to the right."

OK, I know now that a real fleet aviator would have said, "Hey! Where're you going?" I was an ensign, trying to keep my Seahawk grade. As expected, he started a shallow right turn to get us back to our original heading.

"Yeah," I thought, "the same lame vertigo demo."

A few seconds of straight-and-level flight was followed by a five-degree AOB, right wing down. Again, I countered, and again, he corrected. This time, he rolled past straight-and-level into a shallow left turn, while simultaneously turning in an Oscar-winning performance as Vertigo Man. He leaned in his seat, and even rolled his head from side to side.

Again, I told him that he had strayed off course, but this time, he didn't correct to the right. Instead, he continued the slow left roll.

"OK," I thought, "now we're playing. How far will I let him go? Sir, we're off heading by 15 degrees and still turning left. Level off and come back to the right."

approach July 1994

As he rolled 45 degrees AOB, I said, "Uh, sir, if this were an actual situation I would have taken control by now."

"Why haven't you?" he yelled.

As he said this, I watched the aircraft roll further, heard the engine wind down, and the altimeter begin a spin toward the earth only 800 feet below. The VSI went past the 2,000-fpm mark. I grabbed the controls and started my unusual-altitude recovery. Level the wings, level the nose, center the ball, stop the descent, pull power...power!

While still trying to pull the collective away from its attaching hardware, I started a cyclic flare to help stop my Bell "brick" before we hit the 150-foot pine trees looming up at us in the darkness below.

The next sounds I heard were from a million angry trees hitting us at more than 100 knots. I was hit in the face, arms, legs and chest (thank goodness for lap belts) by pine needles, branches, windshield plexiglass, and helicopter parts. The instructor shouted, "Hold on! Hold on!" I thought that I might as well hold on to the cyclic and collective, and continue to fly. But I also knew that any second we were going to stop fast, and hard.

"This stinks," I thought, and then we flew up and out of the pine trees.

My instructor had done such a great job of simulating a pilot with the leans that he had given himself vertigo. I did not know until the trees ripped my instrument hood off that we were flying in a hole ringed with thunderstorms, weather tailor-made for a nasty case of vertigo.

I flew the helo all the way home because the trees had torn the searchlight from the underside, making a night field landing more dangerous. Many of our instruments didn't work, either. Our windshield was completely gone, along with our chin bubble. There was damage to our fuselage, tail rotor, and main rotor. Every compartment of our Jet Ranger was FODed, but it got us home.

Poor crew coordination, an unauthorized maneuver, and poor visibility caused this mishap. I could have broken the chain in the brief by being more assertive and questioning the instructor's intentions. My lack of SA and poor cockpit communication kept me from expressing my discomfort with his vague direction to "Act like a fleet guy."

Now, I'm a fleet guy, and I hope I never fly with a copilot who will let me do something like we did that night.

Lt. Gonzalez flies SH-60s with HSL-44. He has not bought a Christmas tree in four years; they give him the willies.

My First

The FAM 14 solo comes after months of work for SNAs. We train for any emergency or unexpected situation. The safe-for-solo check ride had gone without any major problems. My on-wing instructor and I had spent many flights working on precautionary emergency landings (PELs) and simulated power losses. While PELs still presented a challenge, my on-wing checked me safe for solo.

When I reported to the flight duty officer (FDO) for my first solo flight, I was issued the required dose of ribbing along with my aircraft. The pre-flight and runup went fine, and I launched for my 1.5-hour hop.

After the initial elation of being alone, I got ready for my touch-and-go. At 8,500 feet, I reduced the power and lowered the nose. As the torque passed 750 foot-pounds, the wheels light came on and the warning horn sounded. Funny, I didn't recall this happening before.

As I leveled off and pulled the power-control lever (PCL) to idle, the T-34's engine was still producing 650-700 foot-pounds of torque and 160 knots instead of zero torque and decreasing air-speed. I couldn't find the reason for the problem, so I called the FDO as directed for any unusual situation.

After reviewing my engine indications, the FDO told me to start climbing toward home.

He then said, "Because, Tim, if your engine dies, we want you to be able to glide to a field."

and at the

By 2ndLt. Timothy

It Solo...

I thought, "You've got to be kidding. My first solo, and I've got an emergency!"

I hoped that I hadn't missed something on preflight. I began orbiting the field at 9,500 feet, and soon, a squadron aircraft joined on me. As we began reviewing NATOPS for "uncontrollable high power," there were dozens of people assisting on deck, coordinating with the folks in contract maintenance and in base operations.

Since I didn't have a

textbook malfunction, I got many suggestions for troubleshooting. These were filtered through the FDO and the

chase pilot, and let me concentrate on flying.

After the chase pilot demonstrated an emergency landing profile (ELP), we flew several ELPs at altitude, discussing reference points in a dry run, along with reviewing bailout contingencies.

Finally, after two hours, with all my options exhausted, we decided to shut the engine down and make a high-altitude precautionary landing (HAPL). Just before I shut down, the FDO told me to try once more to muscle the PCL back and forth. Sure enough, after several repetitions, the torque returned to normal (approximately 350 foot-pounds, instead of 650.)

I made a PEL, and when it counted, maintained the profile all the way to the ground. Back at the briefing shack, my fellow students and instructors joked about my first solo. Maintenance determined that the cable running from the power quadrant to the fuel control had dislodged from the retaining bracket at the base of the instrument panel. In essence, as power was advanced, the cable was pulled tight. Reducing power was like trying to push a rope.

Because of this incident, all four PCL quadrant cables are now safety-wired and inspected on a regular cycle.

I learned that things can and do go wrong, no matter how many hours you have. Also, NATOPS does not cover all malfunctions, but with good procedures, system knowledge, and crew coordination (even while solo), potentially disastrous situations can be sorted out with relief, not regret.

2nd Lt. Adams flew with VT-2 at the time of this incident. He is currently going through the multi-engine syllabus at NAS Corpus Christi.

Never Loss?

Adams, USMCR

Slim Was in Town

“Just another great day at Roosie Roads—lowest ceiling 3,000 feet and no thunderstorms to worry about.” The weather guesser announced his forecast as we listened eagerly, anticipating another uneventful VFR shuttle to the CV, which was sitting a mere 60 nm off the coast.

We manned up and took off for the ship with our precious cargo—3,000 pounds of long-awaited letter mail. I had flown this particular aircraft for several days before this flight and had trouble with the pitchfeel system. The C-2A’s flight-control system has an artificial feel system, which controls the longitudinal movement of the control column through the Q-feel actuator. This Q-feel actuator also controls the amount of rudder available, based on a Q-monitor airspeed. The Q-monitor airspeed was sticking intermittently, and could not be run automatically or manually.

Three gripes had been written on this problem within the previous two months, and all had been signed off as “could not duplicate.” So, it was no surprise that the Q-monitor airspeed stuck again on this flight, and within minutes worked again.

We delivered our mail, picked up our off-load, taxied to the cat and were airborne again. Immediately after our “pinky” shot, the pitchfeel light illuminated and the Q-monitor airspeed was stuck again. For the third time that day, it worked fine within minutes. Not a problem... for now.

As we worked our way back to the field, we noticed large masses of darkness vaguely resembling cumulonimbus southwest of the field. We checked in with Approach, and they vectored us right toward the buildups.

“But,” we thought, “we’ll see the lights of the field and turn inbound before we get close to the storm.”

Well, all we saw was black and darker black. Our normally dependable weather radar wasn’t painting anything accurately that night and was just cockpit FOD. Still on our vector, we came face to face with the cell, and I made a hard right turn away from it, instructing the copilot to tell the controller that we were deviating.

The next minute was filled with confusion from the hail and hard rain pounding the bottom and side of the plane. It was so loud we could not hear ourselves or the

radios. A turn toward the field spelled more trouble so we asked for vectors around the field to reenter from the north.

The ceiling at the field had dropped to 1,000 feet, and without us calling the field in sight, the controller couldn’t get us below the 2,700-foot minimum vectoring altitude.

We followed our vector, and finally spotted the field just as we were approaching a good right downwind entry. We called field in sight, and I dropped the gear and flaps to set up for the landing. We looked at each other in relief as we anticipated being on deck in a matter of seconds and meeting at the club later to recite the story. Then, we went through the landing checklist and stopped at the “max rudder” challenge. What we normally would have seen at this point was Q-monitor airspeed—120 knots, max rudder—20 degrees. But to our disappointment, Q-monitor airspeed was 230 knots, and the max rudder was still indicating 2 degrees, even with 20 degrees of rudder selected.

With only 2 degrees of rudder available, Vmc is 220 knots, so if we had lost an engine at that point (120 knots), we would have had no directional control at all. But the chances of losing an engine in the last five minutes of flight are slim and none, and slim is out of town, right?

I discontinued that approach and tried to remain VFR in the pattern to try to troubleshoot the problem. The “watch your altitude” call from the copilot made me realize what a bad idea that was with patches of clouds lurking below 800 feet and only half of our instrument lighting working at any given time.

We cleaned up and requested vectors to a clear area. NATOPS didn’t clearly address our pitchfeel problem, so we had to interpolate procedures.

When we reached the “max rudder 2 degree stop manually release,” step, I hastily told the copilot to pull it. He did and nothing happened. After a minute of bewilderment, we realized the handle was on the pilot’s side. The copilot had pulled the manual hook release. What a relief! I pulled the correct handle, but, again, nothing happened. This wasn’t expected. The Q-feel monitor airspeed was still stuck at 230 knots—near the worst condition it could fail—and the max rudder still showed only two degrees available.

Tonight!

By Lt. Kathy P. Owens

We tried a slow-flight check, but it was hard to distinguish how much rudder we actually had available. I was confident that I had more than two degrees. We were also being constantly tormented by the controller, who was trying to keep us clear of cells and hot areas.

After exhausting all of our options, we elected to fly a 0-degree flap landing, giving us an approach speed of approximately 140 knots in case we only had six degrees of rudder, making Vmc 165 knots.

We made a night field-arrested landing in the rain and taxied back to the line. I congratulated the passengers on their indoctrination into the field tailhooker society and began my postflight walk around.

I didn't get far before I realized "slim" was in town that night. The port nacelle was completely drenched in hydraulic fluid. On closer investigation, we found that the prop-servicing cap had been installed incorrectly, and we had been losing prop fluid

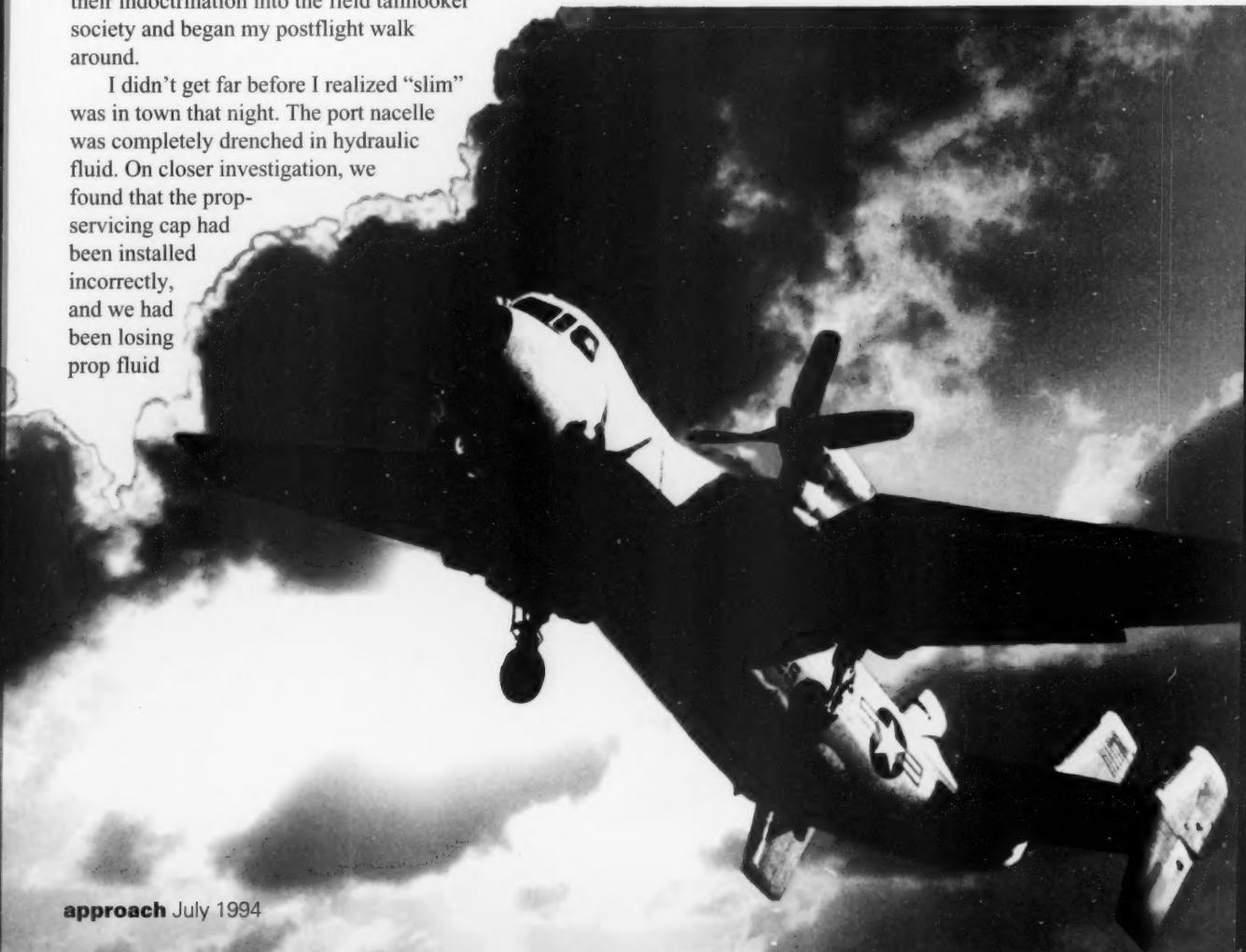
at a high rate. If we had been airborne another 15-20 minutes, we would have lost enough prop fluid to pitchlock the propeller, an even worse predicament with our pitchfeel problem than if we had been single-engine.

The Q-feel actuator was the culprit of the pitchfeel problem. It had finally just frozen in the last minutes of our flight and even AIMD couldn't fix it.

I've also often wondered, why do you have to duplicate a gripe to fix it, anyway?

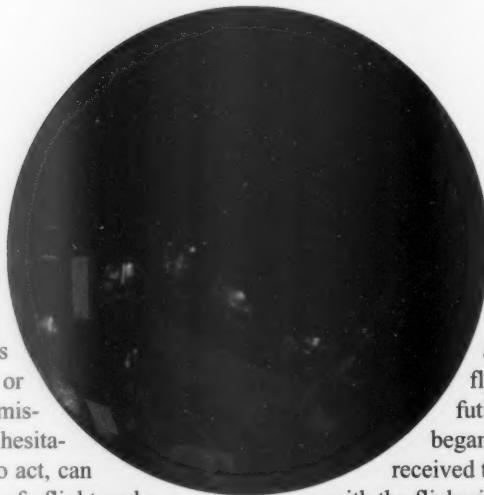
Lt. Owens flies with VRC-40.

PH2 John Gay



DON'T LOVE THE

By Lt. Ken Frieders



Loss of situational awareness is probably listed as a causal or contributing factor in more mishaps than any other. The inability or hesitation to act, or not seeing the need to act, can easily be the difference between a safe flight and a visit by the CACO.

We launched on a night hop. There was no moon and a slight overcast. I hadn't flown at night in more than a week, and I had just received some distracting personal news. We had to go to another ship, pick up a part, and get some help with a data link that didn't always work.

It was about 28 miles to the other ship. We shut down to discuss local area operations and to see if we could get a hard-wire link with them. After about an hour-and-a-half, they thought that they had fixed the data-link problem. (It wasn't.)

Before we even strapped in, we saw a flickering fire light for the No. 2 engine, which hadn't been there when we shut down, or when we preflighted. After 20 minutes of troubleshooting, we decided the problem was a faulty amplifier. Since there wasn't a new amplifier onboard, and the light had been out for more than 10 minutes, we decided to fly back to homeplate.

After launch we had a good link with the other ship. As we tried to link with mother, all the same old problems returned, including our flickering fire light. We knew there was nothing more we could do in the air, so we headed for home. As the ATO, I kept trying to get link,

and so far had done very little flying. After finally admitting the futility of continuing, I stopped. I began thinking a lot about the news I had received the day before, and started fiddling with the flickering T-handle fire light. As we approached the ship, we went through the landing checklist and got the numbers.

We rolled final and the HAC realized that he had been doing all the flying. He asked if I wanted to make the approach. Of course, I gladly jumped at the chance. Everything seemed fine. The HAC leaned back in relaxed confidence, as we had all flown a lot of hours and approaches recently. The AW backed us up on the navigation parameters table, showing groundspeed and altitude. I started my approach. I didn't even realize that I was already behind the situation. I hadn't done my usual mental checklist to reset my radalt to where I keep it when I fly, as opposed to when I'm backing someone else up. I hadn't brought my instrument scan up to full speed yet. And I was still thinking about my personal problems.

The first half of the approach was fairly normal. At about 200 feet, my scan started to slow down. I started getting slow and a little low. The HAC was calling out airspeed and altitude as briefed, but all I heard was the airspeed call. Since my scan had broken down, I didn't notice our low altitude, which was now passing through 100 feet, which is where I normally set my radalt index.

BUBBLE!

About three-eighths of a mile behind the ship, I had picked up my closure speed to a safe 23 knots. As we passed through 70 feet, my radalt warning went off and the HAC was now calling, "Altitude, altitude!" a little faster and more forcefully.

At 55 feet, with the third beep of my radalt, I realized what our situation was. As I began to pull up on the collective, so did the HAC. We leveled out at 50 feet and one-quarter mile behind the ship. The HAC then took the controls to fly the last part of the approach. The AW asked, "What happened?"

"Nothing," the HAC replied, as we looked at each other. The entire sequence had taken 30 seconds.

This incident really brought home to me for the first time that *anything* can happen at any time, as well as the importance of always being aware of your situation. I've had other emergencies that show the importance of crew coordination, but true crew coordination must be a continuous process of analysis and communication. ◀

Lt. Frieders flew with HSL-48. He is currently assigned to NWC China Lake.



Bravo Zulu



Left to right: GySgt. Zwelling, Capt. Greene, SSgt. Bernal, 1stLt. Evans, not pictured.

Capt. Dave Greene, USMC

1stLt. Bill Evans, USMC

GySgt. Kyle Zwelling, USMC

SSgt. O.P. Bernal, USMC

HMT-303

While flying a NATOPS check in a UH-1N, 1stLt. Evans completed a practice autorotation, then advanced both throttles. At that time, he saw a 20-percent torque split.

Capt. Greene verified that both throttles were full open, and noted that the torque for the No.2 engine was high. The crew turned downwind for landing.

As they leveled off, the No.2 engine and main rotor began to overspeed. Recognizing a possible failure of the automatic fuel-control unit and power-turbine governor, the crew tried to control engine (Nf) and rotor speed (Nr) by manipulating collective and the No.2 engine's throttle.

Collective input was effective in controlling Nr, but the No. 2 engine remained fixed at a high

power setting, unaffected by throttle changes.

Any attempt to descend by reducing collective resulted in a rapid increase in rpm on the No.2 engine and main rotor.

1stLt. Evans transferred control to Capt. Greene and began backing him up on emergency procedures and troubleshooting. Capt. Greene conferred with GySgt. Zwelling and SSgt. Bernal, and correctly decided to secure the No.2 engine instead of trying to switch to manual fuel.

Capt. Greene transitioned to single-engine airspeed, and 1stLt. Evans secured the No.2 throttle and fuel.

GySgt. Zwelling and SSgt. Bernal provided clearance and altitude information, helping to guide the aircraft to a single-engine sliding landing.



Capt. Thomas A. Rogers, USMC

VMFA-112

While flying an intercept mission at 17,000 feet MSL, Capt. Rogers heard a loud thump and felt his Hornet decelerate. The DDI showed a caution light for engine inlet temperature, accompanied with an aural warning. He retarded the throttles to flight idle, noticing that the right engine's rpm continued to decay, eventually stabilizing at 30 percent.

Capt. Rogers secured the right engine and all unnecessary electrical equipment. He declared an emergency with Fort Worth Center and turned toward NAS Dallas.

During the flight back to Dallas, the left throttle began cycling between military and flight idle, requiring constant force to keep it in the desired position, and making it very hard to trim the aircraft. Because of this cycling and gusting winds, the Hornet was hard to control.

NATOPS recommends an arrested landing when single

engine and without brakes. The short-field E-28 gear was prepared, and Capt. Rogers made a minimum-rate descent landing. He engaged the gear despite having control problems and a 10-knot crosswind.

Inspection showed that the right engine had failed because of FOD, which destroyed the high-pressure compressor section. A malfunction in a throttle-boost actuator caused the left engine to cycle.



Lt. Scott Jackson
HT-18

Lt. Jackson departed South Whiting Field for a familiarization flight. En route, he started a simulated engine failure at 700 feet AGL. As the student set up for an autorotation, he inadvertently rolled the twist-grip off, shutting off the engine. The engine-out horn and light came on.

Lt. Jackson took control, regained proper autorotation parameters, and initiated the procedures for an inflight engine restart—an emergency procedure that can never be practiced in the

aircraft and is rarely practiced in the simulator.

At 250 feet, Lt. Jackson got a relight and regained full power by 100 feet. He continued flying the autorotation profile and made a no-hover landing in a farmer's field.

BZs require an endorsement from the nominating squadron's CO and the appropriate CAG, wing commander, or MAG commander. In the case of helo dets, the CO of the ship will suffice. A 5-by-7-inch photo of the crew by a squadron aircraft should also accompany the BZ nomination. Please include a squadron telephone number so that we can call with questions.



Left to right: Lt. Liles, Lt. Polich

Lt. Dan Polich
Lt. Jack Liles
VF-143

During a day cat shot, with engines at military, Lt. Polich (pilot) saw the right engine's rpm rolling back to 20 percent below the left engine's rpm. Instruments had been normal during the runup and control wipeout.

As the F-14B left the deck, it yawed significantly to the right in a flat attitude as the Tower called for rotation.

Anticipating single-engine off the cat, Lt. Polich set 10 degrees pitch attitude, while keeping the AOA below 14 units (following NATOPS) and selected afterburner with both throttles.

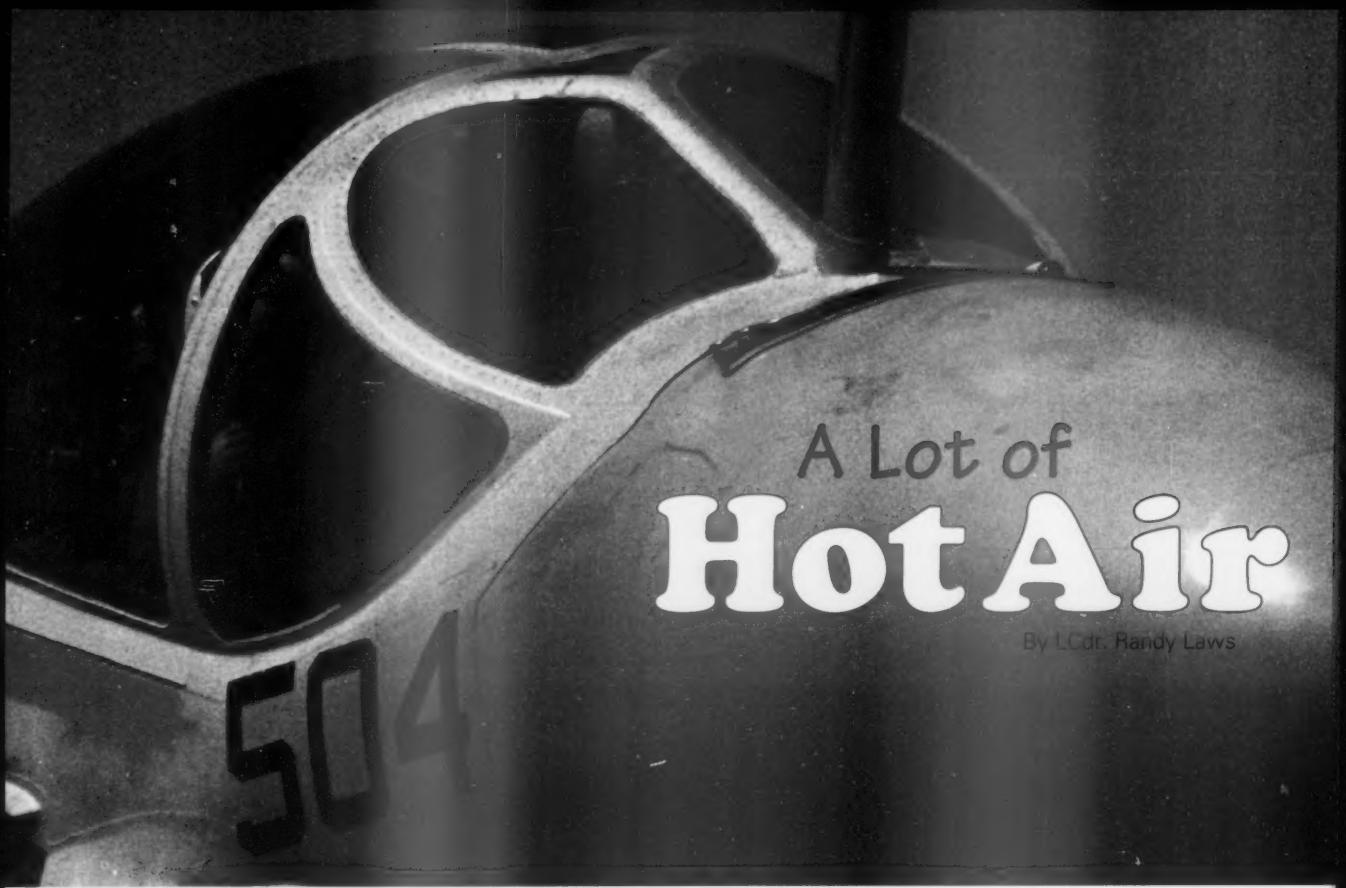
As the pilot raised the landing gear, Lt. Liles (RIO) backed him up with airspeed and altitude calls. Lt. Polich used rudder and limited

stick movements to counter the yaw, while also avoiding additional yaw from spoiler deflection, enabling the aircraft to fly away.

There were no caution or advisory lights as the Tomcat continued to climb. The right engine stabilized at the reduced thrust setting, but soon returned to normal military operating range.

Lt. Polich landed with an OK 3-wire.

Troubleshooting revealed a failed T4B pyrometer, which sent erroneous signals to the main-engine control, resulting in engine-rpm rollback. Asymmetric thrust, subsequent yaw, and low airspeed placed the Tomcat in danger of a departure right after launch.



A Lot of Hot Air

By LCDR. Randy Laws

By the midpoint of a deployment, most of us feel pretty confident in our abilities. Things which only weeks ago would have raised the hair up on the back of your neck have become so commonplace that they hardly get a second glance. Despite the safety reminders that the flight deck doesn't care about accumulated flight time, we tend to formulate game plan based upon our past experiences on the deck and stick to it. Experience is always a good teacher, but sometimes that teacher can set you up.

It was another routine day of summer flight operations in the Arabian Gulf. The air temperature of 110 degrees and relative humidity of more than 90 percent combined to make man-up and preflight uncomfortable at best.

Wind over the deck helped a bit, but by the time we strapped in, started, and sat with the canopy closed for 30 minutes, my pilot and I felt as if we'd lost nine-tenths of our body weight. In this case, we were only the spare, and while both of us hoped to cool down when airborne, we knew it was not to be as the two "go" birds taxied to the cat and launched.

"Oh, well," I said over ICS just before we shut down, "at least it will be cool back in the ready room."

We shut down, climbed out, did our postflight, and started back toward the island from just aft of the No. 1 cat's JBD.

All of us are given obstacle-course training somewhere in our military service. It is my firm belief that this training was to give us some basic, although insufficient, preparation for trying to reach the island from the bow with a recovery in progress.

A quick look down the deck indicated that today we were lucky: only a couple of F-14s had landed and although they would be pointing their tails at us from the six-pack, there was every reason to hope we could stick along the starboard side and thread our way behind the line of six dormant aircraft in front of the island.

As long as the F-14s maintained their position we could avoid walking through their exhaust. Even if they did turn around to run the deck, the exhaust would be far enough away to only cause us to stop momentarily before moving ahead. It looked like a good plan, and I even thanked my luck that today's obstacle course was relatively easy.

Quickly making it to the first parked EA-6B, we moved under it and then on to and under the next one. So far, so good. Only four A-6s to go, and we were at the island. A quick look right confirmed that if we were going

to feel the exhaust of the F-14s, it would be as we went behind the next aircraft in line, a KA-6D.

My pilot walked toward the starboard exhaust area of the KA-6D while I elected to gain as much distance as possible from the F-14's exhaust by moving along the starboard deck edge, just under the horizontal stab of the KA-6D. Moving quickly, I passed under the starboard horizontal stab and felt the F-14 exhaust. Since I didn't have anything to hang on to and a good head of steam going, I continued forward, cursing the day I first laid eyes on a Tomcat.

As quickly as the F-14 exhaust came on, it dropped off, and in my mind, I could see the tail of the Tomcat swinging away from me.

"Not so bad," I thought, and continued forward toward the island. As I emerged on the port side of the KA-6D, I once again felt the rush of hot exhaust from what I was sure was the other F-14 turning his tail on me. This time, I reached up and held on to the port horizontal stab, thinking I'd ride this one out until the F-14's tail swung away from me.

After quite a few seconds of this (which, of course, seemed like all the time in creation), I decided I could fry where I was or continue forward and hope to walk out of

the F-14 exhaust. As I moved away from the KA-6D toward the island, the jet exhaust fell off almost instantly. Yep, you guessed it! A quick look to my right told me that the F-14s hadn't been pointing my way at all. I had walked behind a turning KA-6D at idle power, and the two blasts I felt were its exhausts some 15 feet away.

Having decided to try to go underneath and right behind the exhaust, my pilot noticed the engines turning just before walking directly behind the tailpipe.

Each of us knows that the flight deck is one of the most dangerous places under the sun. It's easy to get burned, figuratively and literally. I had always felt uneasy during recoveries, but numerous successful runs of this obstacle course had made me drop my guard.

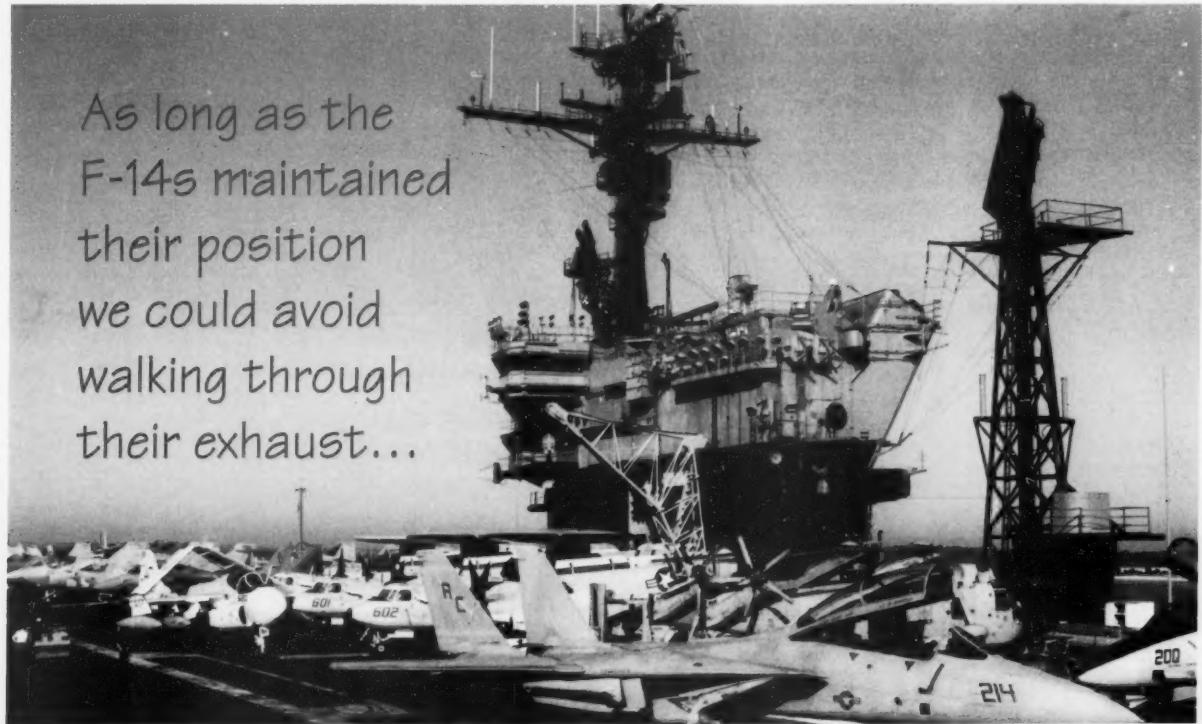
The biggest lesson for me from this experience was that the trip is unnecessary. It is much easier to go down the starboard bow catwalks and avoid the course entirely. The long walk over kneeknockers on the O-3 level to get back aft is really a small price, which I gladly pay now all the time.

Good luck is sometimes nothing more than cutting down on the chances for bad luck to happen. Get down from the deck the fastest, safest way possible, and you could be surprised how much good luck you'll have. ▶

LCdr. Laws is a BN with VA-95.

PH1 Michael D.P. Flynn

As long as the
F-14s maintained
their position
we could avoid
walking through
their exhaust...



"GOOD"

Last year could be considered the year of improved crew coordination—or at least improved training—because of the change to OPNAVINST 3710 that requires annual aircrew coordination training (ACT). Since 100 percent of the P-3 mishaps during 1985-91 had aircrew coordination as a cause factor, this training comes none too soon. Since December 31, 1993, all aircrew were to have participated in initial ACT and will have more training every year afterward.

One compelling reason to take this training seriously is that we need to fully use every one of our dwindling resources. Besides getting the most from every aircrew member, this also means preserving our aircraft.

One of the hardest lessons to drive home is that anyone in the crew may save the plane. The mentality that

each crewman has a rate-specific job is completely out of date. The AW who thinks, "If it isn't acoustic, it isn't my problem," is setting up himself, and the rest of his crew.

It's easy for crewmen to feel unimportant on certain flights. How crucial is an ordnanceman on the airways, especially if he's flying as a utility crewman on a minimum-crew flight? At least with 11 other people doing their jobs, he is part of the team; he belongs. Once he is relegated to being the aft observer for an FCF, his technical expertise is no longer required.

The other three crew members in the flight station are really only interested in how fast they can bring up the boarding ladder, how well they check in for engine starts, and how much food they are willing to share. Calling traffic is an added bonus, but they won't get any points



Vibrations for ACT

By Lt. Michael J. Glenister

for it. If you agree with this so far, you are missing the whole point of aircrew coordination: *everyone* in the crew is vital to the mission, regardless of training or experience.

In our squadron, we had to fly around-the-clock missions in the Adriatic, besides maintaining two planes in Saudi Arabia to patrol the Red Sea, and one plane in a ready status for contingencies. With so many commitments, losing one plane for an elusive vibration was forcing us to stretch our resources. Since the aircraft needed to be fixed quickly, the last thing we needed was a gripe that took weeks to find, much less repair. One aircraft already had had a flap-access panel replaced and a landing line replaced. But on another FCF, the vibration continued.

This flight had an ordnanceman as the aft observer. (These guys are really good with things that explode, but they don't really know what real maintenance is about, right?)

Instead of just sitting back while the FCF crew worked on the problem, the AO got involved. He examined the wings during the flight and noticed that he could actually see where the vibration was coming from. He told the pilots and they landed. Maintenance discovered cracked wing ribs. The weakened structure might have failed.

We did not train this petty officer to look for problems, nor did we expect him to find any. But he wanted to contribute and in doing so, possibly saved an aircraft and definitely kept it in service. ▶

Lt. Glenister flies with VP-24.

PH1(NAC) Bean



DR Nav:

Knock the Rust Off

By LCdr. William A. Goss

Our ASW crew had just completed a three-day det to Lann Bihoue, France. We were now flying home at FL240, VMC on top, talking to Oceanic. Around 450 miles south of our island destination, NAS Keflavik, the 3P reported losing our No.2 inertial. He turned the inertial off and switched the attitude source to standby gyro. Our first inertial was already in attitude reference because of an earlier malfunction. Both HSIs began moving erratically. We told the Nav that the wet compass was now our primary heading source. The Omega had tested 4.0 on the deck.

Since we had 8+00 hours of fuel and the weather was reported VFR, I was not overly concerned. We could DR to Keflavik on Nav's magnetic course, divert if necessary, and still shoot approaches for three or four hours anywhere in Great Britain. However, I was still surprised by some of the events that followed, especially in an aircraft with as much navigational capability as the P-3C Update III.

A half hour later, we switched from Oceanic to Iceland Radio. Apprehensions were reduced when we developed good VHF (line-of-sight) communications. I was expecting a good NAVAID point dead ahead any moment. We had already told ATC about our problems and asked the very helpful controller to report us in radar contact as soon as possible.

We waited for a TACAN fix while maintaining 320 on the wet compass. The TACAN, however, had failed. The VOR appeared to be working but would not provide a point. We were out of range. The TACCO said he couldn't take a celestial shot because the lighting cable for the sextant was bad. The navigator had been using dead reckoning since the inertial failure. He reported that we should be within range soon.

I started doing short counts on the VHF so that the controller could get a VHF-DF cut. We had tuned all available ADF frequencies, even a powerful radio station suggested by the controller.

Finally, the 2P reported a good point and ident on the KEF NDB. Moments later, the controller reported a good VHF-DF with a recommended course. Both indicated a

90-degree heading change to the right. We turned to this heading and a few minutes later were reported in radar contact at 162 miles. Our aircraft radar operator reported landmass radar contact shortly thereafter. We continued to the field and flew an ASR to an uneventful landing.

What did we learn? Sometimes we get over-confident with the sophisticated navigational capabilities of our airplanes and crews. Our simplest systems sometimes prove to be the best.

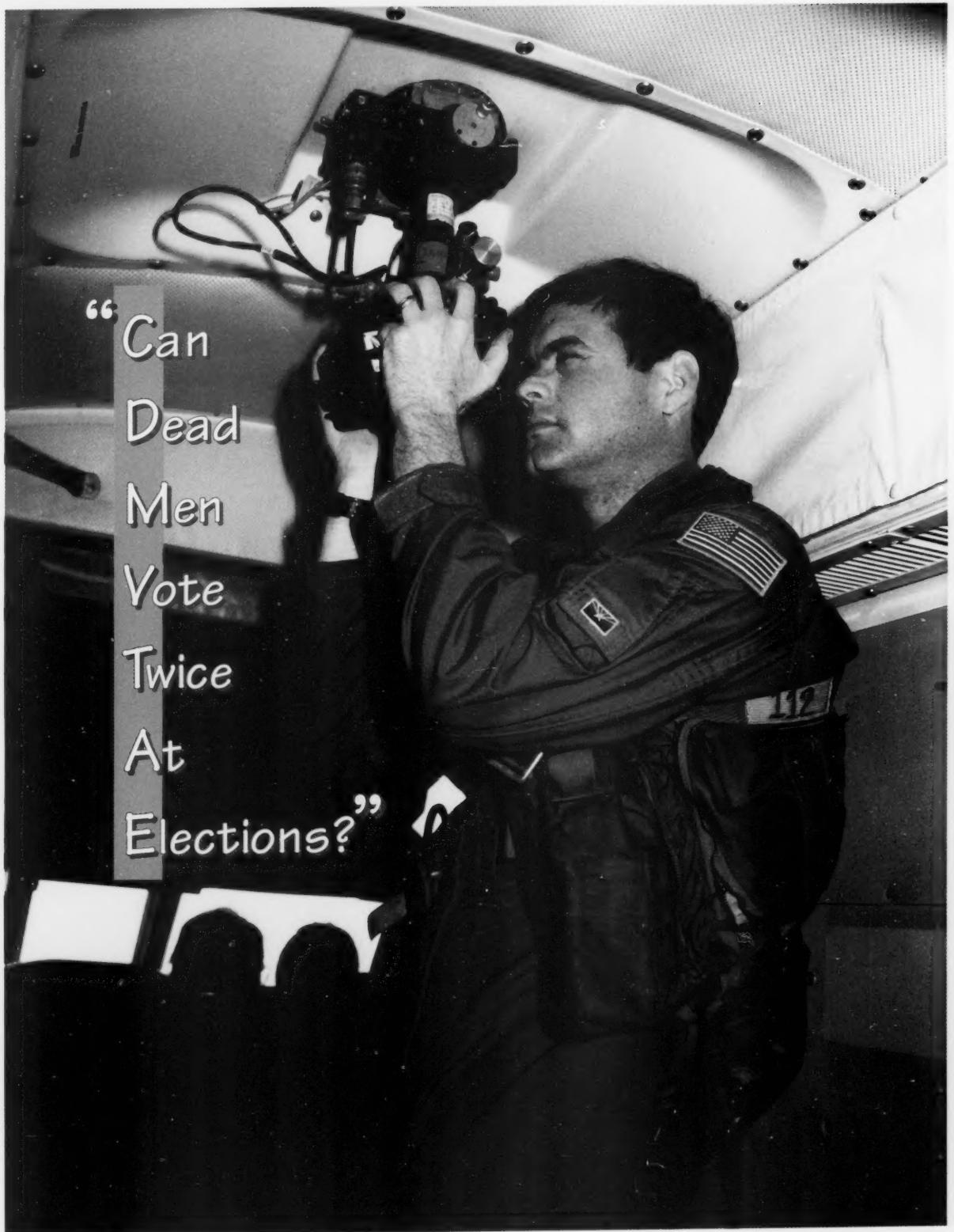
DR navigation in a P-3C might not be as remote a possibility as you think. Train for it. If you start dead reckoning, do not forget (or confuse) the mnemonic device "Can Dead Men Vote Twice at Elections?" to remember the rule "Compass Deviation Magnetic Variation True Add East."

The navigator made the "simple" error of subtracting 20 degrees west variation instead of adding it to develop a recommended magnetic heading. Also, the navigator did not keep an off-line navigation log, thus restricting the TACCO's ability to QA the Nav's computations. Ultimately, this provided the flight station with a course of 320 degrees instead of 360 degrees mag, which would have taken us right into NAS Keflavik.

We could have used the sextant by shining a flashlight into it to get a reading. We also could have taken a sunline without a flashlight. We discovered after landing that the Omega didn't fail. In fact, it had provided reliable information throughout the flight.

Squadron NFOs believe that we don't practice DR Nav enough. This appeared to be the case. Proper inflight DR Nav requires more than just knowing how to do it. It requires total aircrew coordination. It involves concise communication between the flight station, the navigator and the TACCO, as well as the Nav making recommendations and performing chartwork, and the TACCO QAing the Nav's computations and chartwork. The non-acoustic operator must be prepared for radar navigation, and the IFT has to troubleshoot any equipment problems. Communication must flow between all stations, especially accurate equipment status reports.

LCdr. Goss flies with VP-45.



A *Real* NATOPS Check

By LCdr. Marvin C. Huss

Photos by Peter Mersky



My copilot and I had just leveled off in our TA-4J at FL 330 on the first leg of an instrument out-and-in. We had launched in the late afternoon. The flight would give us the chance to shoot some instrument approaches at an AFB. It would be dark when we manned up for the second leg, and we would be able to get much-needed night time toward our annual minimums.

The weather was perfect, not a cloud in the southwest sky. There was, however, a low overcast that was holding right off the coast, near Miramar, and which was forecast to come ashore after sunset. I decided to buster to our stopover point, and I pushed the throttle forward.

As we accelerated to .86 Mach, the cockpit went dark.

"Great, a generator failure," I complained over the cockpit noise to my copilot. "So much for our out-and-in."

I deployed the emergency generator, restored electrical power, and asked Center for a vector back home.

The first inkling that this might not be a routine "RAT out" flight came when I tried to trim the horizontal stabilizer with the emergency override, which is required when using the RAT. No luck. For some reason, we had no stab trim. This was a minor inconvenience: runaway nose-down trim (we were trimmed for .86 Mach). The situation wasn't serious... yet.

We had enough gas to get home, and we would arrive at dusk before the forecast clouds came in. Between the two of us, we could fly the airplane comfortably with no trim.

We went over the PCL procedures for generator loss and runaway nose-down trim. We were going to have to trap because of the loss of spoilers while operating on the RAT, and because we needed to fly a heavy approach with enough airspeed to give us sufficient backstick authority to wave off. These were somewhat mutually exclusive requirements in that our





approach airspeed turned out to be about 200 knots, and the A-4's max trap speed was 160 knots in our current configuration.

We discussed our options, came up with a game plan, and set up for a straight-in. When we lowered the landing gear, our situation went from a little uncomfortable to downright dicey. Our left main gear was indicating unsafe! Minor emergency No.3. Our pucker factor climbed considerably.

We waved off, broke out the PCL again, and worked on the gear problem. This was starting to get aggravating. We had enough gas for about 10 minutes of troubleshooting. It was getting dark, as well as starting to cloud over. Worse yet, there were no other aircraft that could join us to check us over.

We cycled the gear with no luck. We applied positive G but couldn't get too aggressive with any negative G maneuver because our fuel-boost pump didn't work during a generator failure. A strong negative G maneuver would risk a flameout from fuel starvation. We talked about landing with an unsafe main gear. We were flying a

marginally controllable aircraft around the pattern in shaky VFR conditions; we were cross-referencing considerations for an emergency generator, runaway nose-down trim, and unsafe gear; plus we had to make an arrested landing. This was not how I wanted to spend my afternoon. Thankfully, my partner in the backseat reviewed all the various checklist items while I flew the airplane, which made the problems manageable.

Just as we were getting close to committing to a landing, another aircraft arrived in the pattern. The pilot told us that our gear appeared down-and-locked. Our apprehension melted away, and we trapped.

This flight highlighted how quickly little things pile up and create a big emergency. It also demonstrated the value of using cockpit resources. We thoroughly discussed our predicament and by separating our responsibilities, we kept a bad situation from getting worse. It would have been tragic to have had a flameout because we overlooked the boost pump's limitations, or to have lost control while trying to review the multitude of checklists.

LCdr. Huss flies with VFC-13.

Letters

Approach welcomes letters from its readers. All letters should be signed though names will be withheld on request. Address: Approach Editor, Naval Safety Center, 375 A Street, Norfolk, VA 23511-4399. Views expressed are those of the writers and do not imply endorsement by the Naval Safety Center.

Re: "And Now, One For the Home Folks!" (Apr '94)

NAS North Island—I can't help but wonder how much better off these pilots may have been if they had been trained and equipped with NVGs. I maintain that they would have been able to stay under the weather without fear of losing visual contact with the ground. I thought that by now virtually every helo pilot would have NVGs available.

I recently spoke with the P-CO of HC-4, a former NVG desk officer at NAVAIR. I was amazed to find that we are still in the dark ages by restricting the use of NVGs for routine operations.

I first flew NVGs in HC-9 in some of the first Navy applications of the original full-face plate-tanker goggles. In some ways, this had some risk but nothing like flying into a mountain. Today, with the new-generation ANVIS goggles, there's no reason to not train every pilot in their use. Five hours of training would be sufficient to train a pilot for life. One NVG flight in mountains, in marginal weather, will convince even the most confirmed naysayer not to fly night VFR again.

I am not saying that NVGs are an alternative to flying IFR if in bad weather. In this case, the higher altitudes could have had icing conditions. I've had three inches of ice on an H-3, and it ain't fun.

All of us who have flown utility missions in places like this have had this type of experience. Bad weather, past the point of no return, no radios, low fuel, and no choice but to

continue. These pilots could have benefitted from the additional option of being able to goggle up.

Cdr. Jay Pettit
PACFLT Career Information Team

I agree that naval aviation is still in the dark ages when it comes to NVDs. Besides the HCS community, the HC and HS squadrons are training with and using NVD for several mission profiles. Several issues under discussion are raining requirements, proficiency and what are appropriate NVD missions. Currently, no one supports using NVDs for routine, non-tactical personnel transport. This mission is safest when flown under positive control within the IFR structure. This view is consistent with paragraph 5.2.2 of OPNAVINST 3710.7P, which says, "Pilots shall file and retain and IFR clearance to the maximum extent practicable consistent with mission accomplishment."

Judgment is the major point I was highlighting in my comment with Lt. Mattison's article. As Cdr. Pettit wrote, we have all been there and done that. I maintain that the crew in the article had several clues that they were putting themselves into a box. The 40-knot tailwind and turbulence they had outbound should have alerted them to the problems they would experience on the return leg.

The forecast was for low ceilings, isolated thunderstorms, rain and visibility of 3-5 miles. NVGs are

useless in rain, fog and clouds. We recently lost a very experienced NVD Marine CH-53E crew during a night NVD mission in low ceilings and fog.

After their second excursion into inadvertent IFR flight, Lt. Mattison wrote

We were showing a 2,000-fpm rate of descent, and it felt like we were standing still. We watched rotor Nr and the radalt during the longest five seconds of my life. Just as we broke out, we picked up Naples TACAN at 13 miles. We had cleared our last ridgeline, and the 1,000-foot ceilings here seemed to be all the space in the world.

They had the experience of standing still—was that vertigo or were they in an updraft? They watched the radalt—what indication does it give of an approaching ridgeline? None. An RH-53D crew proved that two years ago; all three crewmen are dead. Lt. Mattison and his crew did not pick up Naples TACAN until 13 miles. Could that have been because the last ridgeline was blocking reception? Twelve years ago, I lost two friends and seven shipmates in the Med under similar conditions.

I don't believe that NVDs were appropriate for this mission, nor would they have helped. I stand by my original comments that flight into weather and possible icing is still better than flying into the ground.—

LCdr. John Burgess,
H-3 analyst, Naval Safety Center

Re: Airing One's Dirty Linen (Jan '94)

Tulsa, OK— You people do an outstanding job of allowing people to tell on themselves. The best part of this is the fact that the incidents are first-person accounts of what happened with the names, places and situations, not an after-the-fact summary by someone at a desk. This information is priceless.

The format lets the reader remember the article, either from a similar incident he was involved in, or from a "That's terrible. I won't forget that one." perspective.

"Larry, Moe and Curley Go to the Air Show" (Oct '93) was one of the funniest stories I've ever read. After 22 years in the Navy and Army, 14 of them flying medevac UH-1s, I can tell you that well-written, humorous exposes will get the message across much better than any manual or briefing. If your ego can't handle blowing the whistle on yourself, there's only one solution: don't screw up.

Let's all learn from each other's goofs, however embarrassing. Occasionally, some articles are best left unpublished; that's when the editors have to use their heads for something other than hat racks. I've read Approach for a few years, and that seems to be something they're good at.

CW3 Drew Lofthus,
USAR

Re: Letters (Feb '94)

Woodinville, WA—LtCol. Cariker discusses tolerance (or intolerance) for mistakes, and recommends risk management rather than micromanagement.

He's correct, but the human factor needs to be considered. In my 20-year service with the RAF—a long time ago—I remember one command headquarters staff who were excellent at issuing order that amounted to, "Don't make a mistake."

If you do, it's all your fault, and we'll punish you." They were very poor at considering the real difficulties and creating conditions that might make mistakes less likely.

There's no point in thinking about how to reduce mistakes unless we consider our attitude toward punishment. If authority is preoccupied with the idea of punishment, the pilots and crew members will be preoccupied with concealing mistakes; the causes of mistakes—in particular, the mistakes caused by errors in authority's orders and plans—won't be dealt with.

Every human makes mistakes. Examiner pilots make mistakes. COs and admirals make mistakes. The most junior aviators know this. The best commanders are those to whom you can go and say, "I've made a mistake. What shall we do about it?" without fear of the consequences. Others will punish anyone who tells the truth. Do we want officers who tell the truth, or liars, to run the Navy?

Roderick Rees

Vultures' Row

This list includes Flight, Flight-Related and Ground Class A Mishaps during FY-94.
Classifications and descriptions are subject to change.

DATE	AIRCRAFT	COMMAND	DAY; NIGHT	FATAL	FLIGHT REGIME; LOCATION
7 Oct	UH-1N	HMM-163	N	1	Takeoff; at sea
14 Oct	UH-1N	HMM-268	N	0	Towing, aircraft fell overboard (AGM); at sea
15 Oct	AV-8B	VMA-231	D	0	Birdstrike during low-level; Raleigh, NC
29 Oct	F/A-18D	VFA-106	D	0	Aborted takeoff; Whiting Field, FL
18 Nov	F-14A	VF-84	D	0	Training flight; Currituck Sound, NC
17 Dec	F/A-18A (2)	VMFA-115	D	1	Air-to-air intercept; off Okinawa
10 Jan	HH-46D	HC-6	N	3	Amphibious SAR support; at sea
12 Feb	F-14B, F/A-18C	VF-103, VFA-81	D	0	Midair (not same flight); Adriatic Sea
17 Feb	T-2C (2)	VT-23	D	0	Midair during formation training flight; Kingsville, TX
18 Feb	HH-46D	HC-6	N	0	Controlled ditching; at sea
22 Feb	F-14D	VF-11	D	0	Crashed; at sea
8 Mar	EA-6B	VMAQ-3	D	0	During FCLPs, possible bird ingestion; Cherry Point, NC
12 Mar	CH-53D	HMH-363	D	1	Hit trees/ground after takeoff; Bridgeport, CA
5 Apr	A-6E	VA-304	D	2	Hit water following break for FCLP pattern; Alameda, CA
28 Apr	F/A-18C	VFA-83	D	1	Crashed at sea following catapult launch; Adriatic Sea
25 May	AV-8B	VMA-542	D	0	Crashed in water following in-flight engine surge; Dare County, NC



Two Theories
One Goal

